

**IN THE UNITED STATES DISTRICT COURT FOR THE
EASTERN DISTRICT OF VIRGINIA
Alexandria Division**

SPHERIX INCORPORATED,

Plaintiff,

v.

VERIZON SERVICES CORP.;
VERIZON SOUTH INC.;
VERIZON VIRGINIA LLC;
VERIZON COMMUNICATIONS INC.;
VERIZON FEDERAL INC.;
VERIZON BUSINESS NETWORK
SERVICES INC.;
MCI COMMUNICATIONS SERVICES, INC.;
CELLCO PARTNERSHIP d/b/a VERIZON
WIRELESS;
and
CISCO SYSTEMS, INC.,

Defendants.

Case No. 1:15-cv-00576-GBL-IDD

JURY TRIAL DEMANDED

AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Spherix Incorporated (“Spherix”) files this Complaint against Defendants Verizon Services Corp., Verizon South Inc., Verizon Virginia LLC, Verizon Communications Inc., Verizon Federal Inc., Verizon Business Network Services Inc., MCI Communications Services, Inc., Cellco Partnership d/b/a Verizon Wireless (the Verizon, MCI, and Cellco defendants collectively, “Verizon”), and Cisco Systems, Inc. (“Cisco”), for infringement of U.S. Patents Nos. 5,959,990; 6,111,876; RE40,999; RE44,775; RE45,065; RE45,081; RE45,095; RE45,121; RE45,521; and RE45,598 (the “Asserted Patents”).

THE PARTIES

1. Verizon Services Corp. is a corporation duly organized and existing under the laws of the State of Delaware with its principal place of business at 22001 Loudoun County Parkway, Ashburn, Virginia 20147.

2. Verizon South Inc. is a corporation duly organized and existing under the laws of the Commonwealth of Virginia with its principal place of business at 22001 Loudoun County Parkway, Ashburn, Virginia 20147.

3. Verizon Virginia LLC is a company duly organized and existing under the laws of the Commonwealth of Virginia with its principal place of business at 22001 Loudoun County Parkway, Ashburn, Virginia 20147.

4. Verizon Communications Inc. is a corporation duly organized and existing under the laws of the State of Delaware, with its principal place of business at 1095 Avenue of the Americas, 8th Floor, New York, New York 10036. Verizon Communications can be served with process through its agent CT Corporation System, 4701 Cox Road, Suite 285, Glen Allen, Virginia 23060.

5. Verizon Federal Inc. is a corporation duly organized and existing under the laws of the State of Delaware, with its principal place of business at 22001 Loudoun County Parkway, Ashburn, Virginia 20147.

6. Verizon Business Network Services Inc. is a corporation duly organized and existing under the laws of the State of Delaware, with its principal place of business at One Verizon Way, Basking Ridge, New Jersey 07920. Verizon Business can be served with process through its agent CT Corporation System, 4701 Cox Road, Suite 285, Glen Allen, Virginia 23060.

7. MCI Communications Services, Inc. is a corporation duly organized and existing under the laws of the State of Delaware, with its principal place of business at One Verizon Way, Basking Ridge, New Jersey 07920. MCI can be served with process through its agent CT Corporation System, 4701 Cox Road, Suite 285, Glen Allen, Virginia 23060.

8. Cellco Partnership d/b/a Verizon Wireless, is a subsidiary of Verizon Communications Inc.; has a principal place of business at 1 Verizon Way, Basking Ridge, New Jersey 07920; and can be served with process via its registered agent The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801.

9. Cisco is a corporation organized and existing under the laws of the State of California, with a place of business at 13600 Dulles Technology Dr., Herndon, Virginia 20171. Cisco can be served with process through its agent Corporation Service Company, Bank of America Center, 16th Floor, 1111 East Main Street, Richmond, Virginia 23219.

JURISDICTION AND VENUE

10. This action for patent infringement arises under the patent laws of the United States, Title 35 U.S.C. of the United States Code, including at least 35 U.S.C. § 271.

11. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

12. Personal jurisdiction and venue are proper in this Court pursuant to 28 U.S.C. §§ 1391(b), 1391 (c) and 1400(b).

THE PATENTS

13. On September 28, 1999, United States Patent No. 5,959,990 (the “990 patent”) for “VLAN Frame Format,” was duly and legally issued, naming Paul James Frantz and

Geoffrey O. Thompson as inventors. All rights and interest in the '990 patent have been assigned to Spherix. A true and correct copy of the '990 patent is attached hereto as Exhibit A.

14. On August 29, 2000, United States Patent No. 6,111,876 (the "'876 patent") for "VLAN Frame Format," was duly and legally issued, naming Paul James Frantz and Geoffrey O. Thompson as inventors. All rights and interest in the '876 patent have been assigned to Spherix. A true and correct copy of the '876 patent is attached hereto as Exhibit B.

15. On November 24, 2009, United States Reissue Patent No. RE40,999 (the "'999 patent") for "VLAN Frame Format," was duly and legally issued, naming Paul James Frantz and Geoffrey O. Thompson as inventors. All rights and interest in the '999 patent have been assigned to Spherix. A true and correct copy of the '999 patent is attached hereto as Exhibit C.

16. On February 25, 2014, United States Reissue Patent No. RE44,775 (the "'775 patent") for "VLAN Frame Format," was duly and legally issued, naming Paul James Frantz and Geoffrey O. Thompson as inventors. All rights and interest in the '775 patent have been assigned to Spherix. A true and correct copy of the '775 patent is attached hereto as Exhibit D.

17. On August 5, 2014, United States Reissue Patent No. RE45,065 (the "'065 patent") for "VLAN Frame Format," was duly and legally issued, naming Paul James Frantz and Geoffrey O. Thompson as inventors. All rights and interest in the '065 patent have been assigned to Spherix. A true and correct copy of the '065 patent is attached hereto as Exhibit E.

18. On August 19, 2014, United States Reissue Patent No. RE45,081 (the "'081 patent") for "VLAN Frame Format," was duly and legally issued, naming Paul James Frantz and Geoffrey O. Thompson as inventors. All rights and interest in the '081 patent have been assigned to Spherix. A true and correct copy of the '081 patent is attached hereto as Exhibit F.

19. On August 26, 2014, United States Reissue Patent No. RE45,095 (the “‘095 patent”) for “VLAN Frame Format,” was duly and legally issued, naming Paul James Frantz and Geoffrey O. Thompson as inventors. All rights and interest in the ‘095 patent have been assigned to Spherix. A true and correct copy of the ‘095 patent is attached hereto as Exhibit G.

20. On September 9, 2014, United States Reissue Patent No. RE45,121 (the “‘121 patent”) for “VLAN Frame Format,” was duly and legally issued, naming Paul James Frantz and Geoffrey O. Thompson as inventors. All rights and interest in the ‘121 patent have been assigned to Spherix. A true and correct copy of the ‘121 patent is attached hereto as Exhibit H.

21. On May 19, 2015, United States Reissue Patent No. RE45,521 (the “‘521 patent”) for “VLAN Frame Format,” was duly and legally issued, naming Paul James Frantz and Geoffrey O. Thompson as inventors. All rights and interest in the ‘521 patent have been assigned to Spherix. A true and correct copy of the ‘521 patent is attached hereto as Exhibit I.

22. On June 30, 2015, United States Reissue Patent No. RE45,598 (the “‘598 patent”) for “VLAN Frame Format,” was duly and legally issued, naming Paul James Frantz and Geoffrey O. Thompson as inventors. All rights and interest in the ‘598 patent have been assigned to Spherix. A true and correct copy of the ‘598 patent is attached hereto as Exhibit J.

23. The claims of the ‘990 patent, ‘876 patent, ‘999 patent, ‘775 patent, ‘081 patent, ‘095 patent, and ‘598 patent (collectively, the “Method Patents”) are generally directed to processes relating to VLAN tagging of data frames in communications networks. In at least one such example, the tagged data frame includes a type field whose contents indicate that the data frame comprises a virtual network identifier field, and whose virtual network identifier field in turn indicates the virtual network associated with the data frame.

24. The claims of the '065 patent, '121 patent, and '521 patent (collectively, the "Device Patents") are generally directed to apparatuses relating to VLAN tagging of data frames in communications networks. In at least one such example, the tagged data frame includes a type field whose contents indicate that the data frame comprises a virtual network identifier field, and whose virtual network identifier field in turn indicates the virtual network associated with the data frame.

25. Verizon had notice of the '990 patent, the '876 patent, the '999 patent, and the '775 patent, at least as early as July 7, 2014, by virtue of a letter sent from Spherix's counsel to Verizon's counsel. Verizon had notice of the '065 patent, the '081 patent, the '095 patent, and the '121 patent at least as early as October 6, 2014 via a settlement negotiation presentation made by Spherix's counsel for Verizon's counsel. Verizon had notice of the '521 patent, and the '598 patent at least as early as the date of its receipt of this Amended Complaint.

26. Cisco had notice of the '990 patent, the '876 patent, the '999 patent, and the '775 patent, at least as early as June 6, 2014, as evidenced by its amended answer and counterclaims filed in *Bockstar Technologies LLC v. Cisco Systems Inc.*, CA No. 13-2020 (D. Del.). Cisco had notice of the '065 patent, the '081 patent, the '095 patent, and the '121 patent at least as early as May 1, 2015, the date of its receipt of the Complaint in this action. Cisco had notice of the '521 patent at least as early as May 19, 2015, as evidenced by its amended answer and counterclaims filed in *Spherix Inc. v. Cisco Systems Inc.*, CA No. 14-393 (SLR) (D. Del.). Cisco had notice of the '598 patent at least as early as the date of its receipt of this Amended Complaint.

27. Joinder of Verizon and Cisco together in this action is appropriate because Cisco supplied Verizon with equipment that is accused of infringement and that performs accused

processes, and because questions of fact common to both Verizon and Cisco will arise in this action.

**COUNT I
INFRINGEMENT OF THE METHOD PATENTS**

28. Paragraphs 1-27 are incorporated by reference as if fully restated herein.
29. Without a license or permission from Spherix, Verizon has directly infringed each of the Method Patents under 35 U.S.C. § 271(a). Verizon's infringing acts include, without limitation, using, selling and/or offering for sale methods for processing network data that provide, perform, and/or use VLAN tagging of data frames as disclosed and claimed in the Method Patents. Verizon's infringing services include, without limitation, (1) Verizon's managed services; (2) Verizon's Managed Wireless LAN+ services, (3) Verizon's Ethernet Virtual Circuit ("EVC") services, (4) Verizon's Ethernet Virtual Private Line ("EVPL") services, (5) Verizon's Virtual Private LAN Service ("VPLS"), and (6) Verizon's E-LAN services.
30. Without a license or permission from Spherix, the defendants have contributed to infringement of each of the Method Patents under 35 U.S.C. § 271(c). Without limitation, the defendants have made, imported, sold, and offered for sale apparatuses for use in practicing the processes claimed in the Method Patents, including components of Verizon's MI424WR rev. G Wireless Broadband Router, Cisco's 819 Integrated Services Router, and Cisco's Nexus 9000 Series Switches, which perform VLAN tagging of data frames as disclosed and claimed in the Method Patents, knowing those apparatuses to be especially adapted for use in infringing the Method Patents and not staple articles of commerce suitable for substantial non-infringing use.
31. Without a license or permission from Spherix, the defendants have actively induced infringement of each of the Method Patents under 35 U.S.C. § 271(b). Without

limitation, the defendants have actively induced their customers to practice the processes claimed in the Method Patents, for example by instructing their customers (via printed literature and/or the Internet) to perform VLAN tagging of data frames as claimed in the Method Patents. The defendants knew of or were willfully blind to their customers' direct infringement, without limitation because the defendants were aware of the Method Patents and because the Method Patents had been disclosed as essential to VLAN tagging pursuant to industry standards.

32. The defendants have infringed and continue to directly and indirectly infringe the Method Patents despite their knowing (or having should have known) of an objectively high likelihood that their actions constituted infringement of one or more valid patents, without limitation because the defendants were aware of the Method Patents and because the Method Patents had been disclosed as essential to VLAN tagging pursuant to industry standards. Thus, the defendants' infringement of the Method Patents has been and continues to be willful.

COUNT II INFRINGEMENT OF THE DEVICE PATENTS

33. Paragraphs 1-32 are incorporated by reference as if fully restated herein.

34. Without a license or permission from Spherix, Verizon and Cisco have each directly infringed each of the Device Patents under 35 U.S.C. § 271(a). The defendants' infringing acts include, without limitation, importing, making, using, selling, and/or offering for sale network devices and/or software for processing network data as disclosed and claimed in the Device Patents. Without limitation, the defendants' infringing products and services that infringe one or more claims of each of the Device Patents include, without limitation, (1) the Verizon MI424WR rev. G Wireless Broadband Router, (2) the Cisco 819 Integrated Services Router, (3) the Cisco Nexus 9000 Series Switches, (4) devices used in Verizon's Managed Services, (5) devices used in Verizon's Managed Wireless LAN+ services, (6) devices used in

Verizon's EVC services, (7) devices used in Verizon's EVPL services, (8) devices used in Verizon's VPLS, and (9) devices used in Verizon's E-LAN services.

35. Without a license or permission from Spherix, the defendants have contributed to infringement of each of the Device Patents under 35 U.S.C. § 271(c). Without limitation, the defendants have made, imported, sold, and offered for sale apparatuses for use in practicing the claims in the Device Patents, including components of Verizon's MI424WR rev. G Wireless Broadband Router, Cisco's 819 Integrated Services Router, and Cisco's Nexus 9000 Series Switches, which perform VLAN tagging of data frames as disclosed and claimed in the Device Patents, knowing those apparatuses to be especially adapted for use in infringing the Device Patents and not staple articles of commerce suitable for substantial non-infringing use.

36. Without a license or permission from Spherix, the defendants have actively induced infringement of each of the Device Patents under 35 U.S.C. § 271(b). Without limitation, the defendants have actively induced their customers to use the inventions claimed in the Device Patents, for example by instructing their customers (via printed literature and/or the Internet) to perform VLAN tagging of data frames as described in the Device Patents. The defendants knew of or were willfully blind to their customers' direct infringement, without limitation, because the defendants were aware of the Device Patents and because the related Method Patents had been disclosed as essential to VLAN tagging pursuant to industry standards.

37. The defendants have infringed and continue to directly and indirectly infringe the Device Patents despite their knowing (or having should have known) of an objectively high likelihood that their actions constituted infringement of one or more valid patents, without limitation because the defendants were aware of the Method Patents and because the Method

Patents had been disclosed as essential to VLAN tagging pursuant to industry standards. Thus, the defendants' infringement of the Device Patents has been and continues to be willful.

PRAYER FOR RELIEF

WHEREFORE, for all the foregoing reasons, Spherix prays for judgment and seeks relief as follows:

- (a) For judgment that the claims of the '990 patent have been and/or continue to be infringed;
- (b) For judgment that the claims of the '876 patent have been infringed;
- (c) For judgment that the claims of the '999 patent have been and/or continue to be infringed;
- (d) For judgment that the claims of the '775 patent have been and/or continue to be infringed;
- (e) For judgment that the claims of the '065 patent have been and/or continue to be infringed;
- (f) For judgment that the claims of the '081 patent have been and/or continue to be infringed;
- (g) For judgment that the claims of the '095 patent have been and/or continue to be infringed;
- (h) For judgment that the claims of the '121 patent have been and/or continue to be infringed;
- (i) For judgment that the claims of the '521 patent have been and/or continue to be infringed;

- (j) For judgment that the claims of the '598 patent have been and/or continue to be infringed;
- (k) For either damages sufficient to compensate Spherix for the infringement, or a reasonable royalty, whichever is greater, together with pre- and post-judgment interest and costs;
- (l) For an award of attorney's fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by law; and
- (m) For such other and further relief as the Court may deem just and proper.

JURY DEMAND

Pursuant to Fed. R. Civ. P. 38, Plaintiff demands a trial by jury of any and all issues properly triable to a jury.

Dated: June 30, 2015

Respectfully submitted:

By:/s/ Erik C. Kane

Erik C. Kane (VSB 68294)

Attorney for Plaintiff, Spherix Incorporated

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CERTIFICATE OF SERVICE

I hereby certify that on June 30, 2015, I caused the foregoing document to be filed electronically using the Court's CM/ECF system, which automatically send a notice of electronic filing to all counsel of record.

Dated: June 30, 2015

By:/s/ Erik C. Kane

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